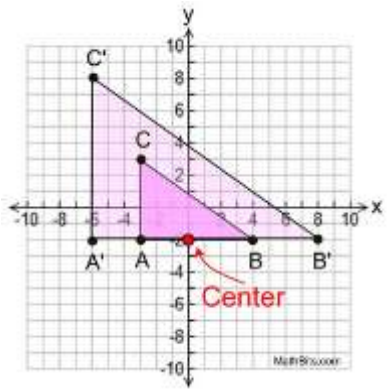
UNIT 1 LESSON 5 – DILATIONS

Dilations = makes the figure smaller or bigger

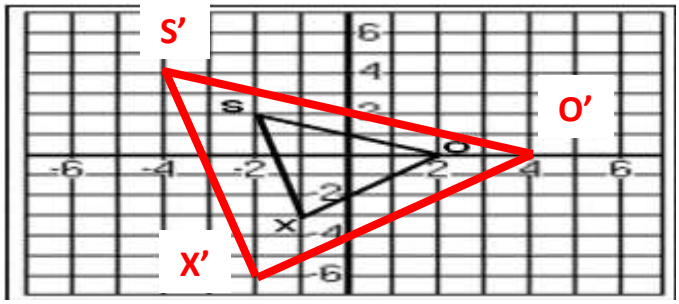
Notation: D_{number} OR $D_{(x,y)}$



A DILATION is a transformation in which the figure grows or shrinks according to a scale factor. Scale factor = r

r > 1 = growth or enlargement
r = 1 = congruent
0≤r≤1 = shrinks or reduction

Ex 1) Given the diagram ΔSOX, find the coordinates of the dilation about the origin with a **scale factor of 2**.



Multiply each coordinate by 2

S(−2,2) ⟹ S'(−4,4)

O(2,0) ⟹ O'(4,0)

X(−1,−3) ⟹ X'(−2,−6)

Ex 2) The image of point A' after a dilation of scale factor 3 is (6, 15). What was the original location of point A?

Point A' is given as the point after the dilation has taken place. To find the pre-image point A we need to do the inverse of multiplication…which is division.

Divide each coordinate by the scale factor

A (2,5)

YOU TRY!!!

Ex 3) Triangle ΔABC has coordinates A(2,4), B(−2,4), C(0,−6). Write the coordinates of the vertices of the image of a triangle after a dilation of 3.

Ex 4) Based on the image of ΔFGH find the coordinates after a dilation with a scale factor of ½.